

# New Hampshire Wetland Program Plan 2024-2029



## Prepared by:

New Hampshire Department of Environmental Services  
Water Division - Wetlands Bureau  
Darlene Forst, Bureau Administrator  
Mary Ann Tilton, Assistant Bureau Administrator  
29 Hazen Drive / PO Box 95  
Concord, NH 03302-0095



## Contents

Introduction .....	3
Goal Statement .....	3
Environment-Based Outcomes .....	3
Program-Based Outcomes .....	4
Core Elements .....	4
Core Element 1: Monitoring and Assessment .....	4
Core Element 2: Voluntary Restoration and Protection .....	6
Core Element 3: Regulatory Approaches .....	9
Core Element 4: Water Quality Standards for Wetlands .....	11
Core Element 5: Outreach, Education and Local Capacity Building .....	12
Literature Cited .....	16

## Introduction

The New Hampshire Wetland Program Plan (WPP) uses EPA's [Core Elements framework](#) and provides the New Hampshire Department of Environmental Services (NHDES) and its partners a framework and direction over the next six years to strengthen, improve and better protect wetlands and aquatic resources statewide. The NHDES Wetlands Bureau is part of the Water Division's Land Resources Management (LRM) program, which regulates wetlands, surface waters and aquatic resources, shorelands, stormwater, and subsurface systems.

This WPP recognizes that wetlands and surface waters provide significant economic value to New Hampshire, by improving drinking water quality, by reducing the frequency and intensity of floods, by cleaning the water, by providing inviting places for popular recreation, by supporting vital fish health, by providing food, habitat, and nesting and breeding (reproduction) areas for fish and wildlife (See: [Economic Benefits of Wetlands](#)).

As noted in the Fifth National Climate Assessment released in November, 2023, "the northeast has seen a roughly 60% increase in the number of days with extreme precipitation, the largest increase of all the US regions. The intensity of these events has also increased. This trend, along with an increased risk of flooding, is also expected to continue." ([Climate Change Impacts in the Northeast](#)) [Fifth National Climate Assessment](#). Hydrological services provided by wetlands for attenuating hydrological extremes and water quality transformation and nutrient attenuation have been well documented (Acerman & Holden 2013, Hurby 2012, Adamus 1991).

The WPP actions and activities described in this document are necessary to accomplish the environment-based and program-based outcomes. The WPP should be considered a work in progress. It will be revisited and revised as needed. In January, 2024, NHDES received approval of the WPP from EPA. This version of the WPP incorporates comments and suggestions from EPA.

## Goal Statement

This WPP is guided by the following general goals:

- 1) Protect and preserve wetlands, natural resources and water quality.
- 2) Sustain economic vitality.
- 3) Build resiliency to climate change.
- 4) Protect public safety and public health.

Working with partners, NHDES has identified overall goals (or "desired outcomes") related to wetland resources in the state. These outcomes are separated into environmentally based outcomes and programmatic-based outcomes that were used to guide the work to be accomplished under the WPP.

## Environment-Based Outcomes

- Wetland complexes of high ecological value, high function and high condition are afforded adequate protections.
- Blocks of un-fragmented habitat are protected or connected to other habitats, protected land, or stream and wildlife corridors.
- Land development practices avoid and minimize cumulative and indirect impacts to wetland and aquatic resources.
- Natural stream flow regimes are maintained, and stream crossings allow aquatic resources to stay connected.
- Streams and wetlands have adequate protective buffers.
- Retain or restore the condition of New Hampshire's wetlands to support aquatic life and wetland functions.

## Program-Based Outcomes

- Wetland permit processes are integrated across Water Division programs and land resources permits and water quality related permitting.
- Wetland protection efforts are well funded, and wetland resources are protected and maintained to provide ecosystem services (reduce flooding, improve water quality, provide habitat and recreation opportunities) and economic benefits.
- There is a broad base of stewardship and public understanding of the multiple benefits of the functions and values of wetlands and aquatic resources. There will be a coordinated message from state and federal agencies, local governments, citizen volunteers, and nongovernmental organizations.
- Wetland education, compliance and enforcement efforts are well funded, consistent, and responsive.
- New Hampshire’s wetlands are assessed for their condition on a regular basis consistent with the New Hampshire Wetland Monitoring Strategy and 305(b) reporting, once indicators and thresholds are developed.
- Environmentally based outcomes and measures are identified and used for annual status and trends reporting and to inform proposed regulation, policy and decision making.
- Resource management decisions are based on sound science and balance public interests and the [public purpose described in RSA 482-A:1](#).

## Core Elements

The following WPP core elements are informed by the federal [Core Elements of Effective State and Tribal Wetland Programs](#). Based on input from EPA, NHDES added and retained a fifth element on Outreach, Education and Local Capacity Building.

1. Monitoring and assessment.
2. Voluntary restoration and protection.
3. Regulatory approaches including Clean Water Act (CWA) Section 401 certification.
4. Water Quality Standards for Wetlands.
5. Outreach, Education and Local Capacity Building.

### Core Element 1: Monitoring and Assessment

#### Goals

- Identify and map wetlands; to monitor and assess wetlands at the watershed scale, the landscape scale, and individually (Level 1, 2 and 3); and to enhance understanding of important wetland functions and values and ecosystem services that wetlands provide to inform regulatory decisions and guide restoration or preservation projects.

#### Objectives

- Develop methods to monitor and assess wetlands and aquatic resources condition to inform regulatory decisions and guide restoration projects.

### Action (a): Define wetland monitoring objectives and strategies.

Activity	2024	2025	2026	2027	2028	2029
1. Identify programs that will use monitoring data (track trends, restoration, permitting) and identify shared goals for wetland monitoring and assessment. Meet with those programs periodically to share information about progress of the strategy.						X

2. Identify how wetland monitoring data can be used to inform wetland permitting, implement watershed planning, coastal resilience planning, and wetland restoration and conservation projects.	X	X	X	X	X	
3. Participate in regional projects (New England Interstate Water Pollution Control Commission or NEWIPCC and New England Wetlands Biological Assessment workgroup) to review metrics metrics and models. Refine mapping strategy based on ecological integrity and functions.		X		X		X
4. Define data and mapping needs, applications and models for wetland monitoring and strategy.	X		X		X	
5. Update <a href="#">National Wetlands Inventory</a> (NWI+) function maps based on data and mapping needs and more robust models.		X		X		X

**Action (b): Provide foundation for a wetland monitoring level 2 assessment.**

Activity	2024	2025	2026	2027	2028	2029
1. Adapt Natural Heritage Bureau Ecological Integrity Assessment method based on best available science and common metrics used across the region. Identify high ecological wetlands sites.		X		X		X
2. Participate in the National Wetland Condition Assessment (NWCA) field sampling.	X		X		X	
3. Develop a rapid Floristic Quality Assessment (rFQA) and/or other rapid methods that can be used in wetland regulatory plans and decisions.		X		X	X	X
4. Train agency staff and natural resource professionals, as well as town officials where applicable, in new tools and protocols developed (such as rFQA).			X	X	X	X
5. Inventory high value source water protection and wetland habitat, high value flood storage wetlands, wetland riparian buffers, meander belts, wetland floodplains, or other high-functioning wetlands, and upstream and downstream locations associated with vulnerable Environmental Justice communities.	X	X	X	X	X	X
6. Develop a model, mapping and online outreach tools to inform regulators and the public on locations vulnerable to flood risk, washouts, and to prioritization conservation and restoration, remedial sites to inform fluvial hazard mitigation funding, ARM funding, and other partner fundings.		X		X	X	X
7. Partner with municipalities, regional planning commissions, New Hampshire Department of Transportation, New Hampshire Homeland Security Emergency Management and Federal Emergency Management Authority regional technical assistance to develop and implement an outreach plan to inform local communities including Environmental Justice communities and funding opportunities to make local stream crossings and communities more resilient during high precipitations, flood events and natural disasters.	X	X	X	X	X	X

8. Review, test, train and comment on New England wetland functional assessment methods.	X	X	X	X	X	X
--	---	---	---	---	---	---

## Core Element 2: Voluntary Restoration and Protection

### Goals

- Prioritize and implement protection and restoration of aquatic resources of high ecological value and function that are connected to other habitats and that are sustainable.
- Seek federal funds to supplement and support restoration activities.
- Continue culvert flood assessment from a wetland function lens.
- Obtain funding sources to support robust restoration projects.

### Objectives

- Continue to develop a strong Aquatic Resource Mitigation (ARM) fund program and other funding mechanisms and grant programs to maximize efficiency, mitigate impacts to valuable wetlands and aquatic resources, and continue use of funds for ecologically significant and sustainable projects.
- Develop tools for NHDES and natural resource professionals to use to better assess wetlands pre- and post-restoration.

## Action (a): Develop new and use existing tools and science to inform voluntary restoration and protections.

Activity	2024	2025	2026	2027	2028	2029
1. Partner with federal, state, municipal, nonprofit and other natural resource science partners to collaborate on protocols, planning, tools, protocols and best management practices for restoration and conservation.	X	X	X	X	X	X
2. Identify priority wetland wildlife habitats for protection and high ecological integrity wetland sites where enhanced buffers would be required or restoration or conservation would be prioritized.	X		X		X	
3. Evaluate the need for buffer protection associated with water quality, flood control, wildlife habitat and other functions and values.	X		X		X	
4. Develop GIS tools and methodology to assist in the identification of potential and priority restoration and preservation sites.			X		X	
5. Use and adopt existing tools to inventory and assess existing stream crossings. Develop watershed-based tools to align prioritization of stream crossing upgrades and dam removals that are balanced with wetlands preservation to appropriately mitigate functional loss and to mitigate flood risk and impacts.	X			X		
6. Upgrade NHB data to inform voluntary restoration and land protection initiatives and partnerships.	X			X		X

7. Establish Ecological Integrity Assessment (EIA) as a tool and management guide for voluntary restoration and land conservation priority plans.	X		X		X	X
---	---	--	---	--	---	---

**Action (b): Continue development of ARM Fund Program and related programs to maximize efficiency and investment of funds for ecologically sustainable projects.**

Activity	2024	2025	2026	2027	2028	2029
1. Promote high quality protection and restoration projects through criteria development, prioritization, and outreach to towns, land trusts, partners etc.		X		X		X
2. Develop a strategy for watershed-based plans that identify protection and restoration priorities across programs.		X		X		X
3. Continue updating the permit application process and ranking criteria to accommodate range of protection and restoration activities.	X				X	
4. Continue permit application announcement and review to improve efficiency for NHDES and ARM selection committee.			X	X	X	X
5. Develop coordinated approach with other existing programs involved in aquatic resource protection.	X		X		X	
6. Identify a method to prioritize stream restoration and protection projects.				X		X
7. Examine emergency washouts and undersized crossings. Study associated wetlands and flood systems to inform future restoration opportunities.	X	X	X	X	X	X

**Action (c): Mitigate impacts to wetlands and aquatic resources.**

Activity	2024	2025	2026	2027	2028	2029
1. Assist New Hampshire Fish and Game (NHFG) to protect and mitigate significant regulated wildlife resources. Assist with updating and implementation of the New Hampshire Wildlife Action Plan.		X				
2. Participate in Wildlife Action Plan revisions to incorporate change in species list, climate change, and wetland and stream program improvements.			X		X	
3. Assist NHFG to develop wildlife mitigation program governance, staff, rules, and tools related to RSA 212-A protected species and habitat dependent on wetlands, surface waters and coastal areas		X	X	X	X	X

**Action (d): Use data to inform regulatory decisions related to mitigation.**

Activity	2024	2025	2026	2027	2028	2029
1. Continue development of ARM Fund Program.		X	X		X	

2. Incorporate wetland monitoring and assessment information in regulatory decision-making.	X			X		X
3. Develop new tools and database improvements to track and evaluate mitigation program, protection and restoration potential and success.	X		X		X	

**Action (e): Build local-level capacity to enhance protection efforts.**

Activity	2024	2025	2026	2027	2028	2029
1. Develop strategies to document high-value wetlands and to address buffers through local and state processes.	X		X			X
2. Identify opportunities for conservation through land trusts, local commissions, and state and regional initiatives.		X		X		
3. Translate the outputs of watershed-based tools that strategize actions to preserve wetlands to local officials for use in their wetland preservation and restoration efforts.		X		X		

**Action (f): Continue identification of wetlands and aquatic habitat of high ecological value.**

Activity	2024	2025	2026	2027	2028	2029
1. Reassess and resurvey known <a href="#">exemplary natural communities</a> and systems with outdated records.			X			X
2. Identify and evaluate previously un-surveyed wetlands and aquatic habitats that have potential to be high quality.						X
3. Continue identifying valuable vernal pool complexes.				X	X	X
4. Develop an action plan with known high quality, high-ecological-integrity wetlands or stream systems for restoration and/or preservation.				X	X	X

**Action (g): Develop metrics and field protocols for wetland restoration and protection.**

Activity	2024	2025	2026	2027	2028	2029
1. Strategically develop a professional restoration work group.				X		X
2. Identify restoration opportunities and methods to monitor and review data pertaining to restoration projects.				X		X
3. Review recent science and climate change information and analyze the data to				X		X



understand trends, correlations and next steps.						
4. Develop training, outreach, conference, best management practices, and an established community of practice on restoration.				X		X

### Core Element 3: Regulatory Approaches

EPA defines various regulatory programs that regulate wetlands from CWA Sec 401; SPGP, Assumed Sec 404 programs, and those governed under state wetlands laws. In New Hampshire, wetlands are regulated through RSA 482-A, wetlands statute and rules. The [Department of the Army General Permits for the State of New Hampshire](#) (effective 9/29/22 – 9/29/27) cover the majority of activities regulated through the Clean Water Act (23 General Permits). The NHDES Watershed Management Bureau reviews activities under the general permit for potential water quality certification.

#### Goals

- Avoid and minimize wetland loss, preserve wetland functions and ecological integrity, and replace unavoidable or noncompliant losses with high-value or high-integrity wetlands that are equivalent or greater in size and that support functions and ecological integrity comparable to or better than the wetlands lost. Consider and account for the Conservation Status Rank (S-Rank; S1-Critically Imperiled to S5-Secure) of the system type impacted.
- Develop a process beyond complaint-driven enforcement responses toward proactive landscape-level investigations to deter violations.
- Measure timeliness of NHDES response and level and rate of NHDES permit compliance.
- Measure how policy changes will alter development rates, impact wetland or stream loss or diversion of stream resources, impact loss of valuable wetlands or stream systems, and change or increase costs to local communities, watersheds, and the state.

#### Objectives

- Continue to develop strong regulatory program by strengthening regulations, policies and guidance documents. Develop and operate under consistent application procedures.
- Maintain consistency and coordination. Create strategies to execute strong compliance and enforcement actions.

### Action (a) Measure complaint response and permit compliance.

Activity	2024	2025	2026	2027	2028	2029
1. Develop standard operating procedure to track and measure timeliness of complaint responses. Measure number of days to first field inspection and first NHDES action.			X		X	X
2. Develop program to measure compliance rates. Develop a pre- and post-construction permit inspection checklist and a selection process for permits to monitor. Develop system to track compliance with Best Management Practices (BMPs). Develop guidance on measuring permit compliance and BMP effectiveness. Provide training on field inspections, permit compliance and BMP effectiveness and consistency in developing enforcement cases.		Pilot Program	X		X	

3. Develop database tracking and reporting functions to summarize compliance and enforcement response and actions.	X	X				X
4. Develop database tracking and reporting to manage and monitor Permittee Responsible Mitigation (PRM) sites for long-term sustainability.	X	X				X

**Action (b): Simplify, consolidate and improve wetland permitting processes.**

Activity	2024	2025	2026	2027	2028	2029
1. Draft wetland-related rules and new forms, and initiate rulemaking to simplify, reduce and clarify existing processes.	Started			X	X	X
2. Develop flow charts and guidance for staff and public relative to new streamlined permitting and certification processes.	Started	X			X	
3. Develop business plan to transition to e-permitting and paperless processes.	X	X			X	
4. Implement database plan, test, train staff.	X	X	X	X	X	
5. Train and educate staff and public on new processes.	X				X	
6. Simplify and standardize stream crossing rules and guidance.				X	X	X
7. Improve data screening web-based tools to assist applicants.	X	X				
8. Provide joint applications and checklists for certain application processes.	X			X		
9. Enhance database tools to improve efficiency in tracking and reporting resource impacts.	X			X		

**Action (c): Implement changes to improve wetland protection.**

Activity	2024	2025	2026	2027	2028	2029
1. Identify opportunities to strengthen and clarify state wetlands statute.		X		X		X
2. Identify opportunities to strengthen and clarify administrative rules that support state wetlands statute.		X		X		X
3. Coordinate with regulatory partners to strengthen wetlands protection.	X	X				X
4. Expand approaches to define and address indirect and cumulative impacts of landscape change.	X	X	X	X	X	

5. Improve and clarify process to review and report NHFG, NHB and other partner permit conditions.					X	
6. Update BMPs: University of New Hampshire (UNH) Stormwater Management Manual, UNH Stream Crossings, Utility BMP).			X	X	X	
7. Develop standard adaptive management conditions for certain permits and certifications that would help maintain wetland values and functions to address issues resulting from climate change.			X	X	X	

#### Core Element 4: Water Quality Standards for Wetlands

##### Goals:

- Provide effective level of protection for wetland and stream systems through an efficient regulatory program.

##### Objectives:

- Improve coordination between Water Division programs with respect to wetlands policies and regulation.
- Incorporate wetland-specific water quality standards into agency decision making.

#### Action (a) Develop water quality wetlands program.

Activity	2024	2025	2026	2027	2028	2029
1. Develop rules and water quality standards for wetlands.				X		X
2. Develop a Standard Operating Procedure to evaluate wetland water quality standards effectiveness.			X		X	
3. Provide selection criteria for Wetlands-water quality permit inspection follow-up and link to permit compliance program above to monitor sensitive and valuable wetlands and stream systems.			X		X	
4. Measure and track compliance rates.			X		X	

**Action (b) Ensure compliance with NHDES surface water quality standards as they relate to wetland permitting.**

Activity	2024	2025	2026	2027	2028	2029
1. Develop guidance and standard operating procedures for requesting a mixing zone in accordance with Part Env-Wq 1707 of New Hampshire’s Surface Water Quality Standards.				X		X
2. Develop water quality coordination plan to include NHDES Wetlands Bureau, Alteration of Terrain Bureau and Watershed Bureau.			X		X	
3. Plan, develop and implement a database to track compliance and enforcement of conditions of certifications required under section 401 of the Clean Water Act; RSA 485-A:12, III; and RSA 485-A:12, IV.			X		X	

**Core Element 5: Outreach, Education and Local Capacity Building**

*Goals*

- Partner with volunteer and nonprofit organizations to develop and disseminate outreach and educational resources.
- Provide resources to local leaders and elected officials to help inform local wetland-related decision-making.
- Provide education and outreach materials to better educate and inform the New Hampshire legislature.

*Objectives*

- Improve public understanding of wetlands value and wetland permitting processes.

**Action (a): Expand outreach programs that educate the public on value of aquatic resources to sustain economic vitality, protect public safety and public health, protect water quality, and protect fish and wildlife habitat.**

Activity	2024	2025	2026	2027	2028	2029
1. Maintain and identify continuing funding for full-time dedicated outreach positions.	X			X	X	X
2. Develop guidance and outreach materials that correlate significance of wetlands and the economy such as what is our water worth, business and	X				X	X

tourism, and the threat of development.						
3. Develop outreach steering committee with stakeholders such as applicants, programs, agencies, academic institutions, and non-governmental organizations.	X		X		X	
4. Develop outreach plan that takes a regional watershed approach. Work with steering committee and stakeholders to seek input. Implement outreach plan. Develop outreach resource library to share across NHDES programs and events.	X			X		X
5. Maintain and improve outreach planning, scheduling and tracking to identify dates, locations, type of events, and type of outreach for all staff.	X		X		X	X
6. Create and distribute regular email newsletters to inform applicants on process updates and issues observed on permit applications.		X		X		X
7. Develop and distribute wetlands messaging and outreach resources (fact sheets, presentations, etc.) focused on key functions and values (flood protection, water quality, wildlife) on website, social media accounts and email communication resources.			X		X	
8. Measure success of outreach through surveys and quizzes and other customer satisfaction tools.						
9. Develop and implement public notice and public hearing standard operating procedures to help ensure environmental justice and otherwise disadvantaged communities are aware of proposed projects that could impact those communities.			X		X	

10. Develop guidance on how people in environmental justice or otherwise disadvantaged communities can submit effective comments to NHDES on proposed permits and certifications.			X		X	
---	--	--	---	--	---	--

**Action (b): Enhance and integrate outreach, education and technical assistance to municipal officials, conservation commissions and watershed organizations (and land use planning commissions).**

Activity	2024	2025	2026	2027	2028	2029
1. Develop training resources for wetland-related outreach and assessment.			X		X	
2. Pursue and secure outreach and educational partnerships and training opportunities with EPA and other partners.			X		X	
3. Coordinate among state partner outreach teams.	X	X		X		X
4. Coordinate with NHFG Public Affairs to provide tools to relay messages (Discover Wild NH Day, fairs, “train the trainer” opportunities, etc.).	X	X				X

**Action (c): Influence and inform local decision making.**

Activity	2024	2025	2026	2027	2028	2029
1. Partner with regional planning commissions, NHACC and municipalities on outreach.	X		X		X	
2. Promote public educational resources on wetland and riparian functions, water quality, and minimization and avoidance of impacts.	X					
3. Share resources with municipalities related to wetland outreach efforts, assessment tools and reporting on the ecological integrity of wetlands (including <a href="#">National</a>	X			X		X

<a href="#">Wetland Condition Assessment</a> ).						
4. Develop and distribute guidance to municipalities via outreach, including trainings and email newsletters.	X			X	X	X
5. Develop priority resource tracking exchange network or database to facilitate identification of vernal pools to publish for community access. Develop a GIS vernal pool layer using LiDAR.	X	X				X
6. Develop stream culvert prioritization outreach. Identify key stakeholders for distribution of such outreach.			X		X	
7. Improve outreach to municipalities to plan for emergency or disaster events (partner with HSEM, FEMA).			X		X	
8. Share and advocate for wetland benefit findings among scientists, engineers, volunteer and nonprofit organizations, elected officials, consultants, and the public.			X		X	
9. Working with communities and stakeholders, develop prioritization plan with known high-quality, high-value wetlands, streams and surface waters for restoration and preservation.			X		X	

## Literature Cited

Acerman, M, J Holden 2013. *How Wetlands Affect Floods*. *Wetlands* 33:773 – 786.

Adamus, P. R., L. T. Stockwell, E. J. Clairain, M. E. Morrow, L. P. Rozas, and R. D. Smith. 1991. *Wetland Evaluation Technique (WET) Volume 1: Literature Review and Evaluation Rationale*. *Wetlands Research Program Technical Report WRP-DE-2*. US Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS. 290 pp.

Crimmins, Alison. US Global Change Research Program (2023). [Fifth National Climate Assessment](#).

Core Elements Framework EPA, EPA website. Developing a State or Tribal Wetland Program Plan. Core Elements Framework (CEF). [EPA Core Elements Framework: Developing a State or Tribal Wetland Program Plan](#).

[Economic Benefits of Wetlands](#), EPA.

Hruby, T. 2012. Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Eastern Washington. Publication No. 11-06-015, Washington State Department of Ecology, Olympia, WA. 171 pp.

Northeast Regional Climate Center, Cornell University, 2023.